

## **GIS-Related Action Items**

### **Nebraska Information Technology Commission (NITC) 2010 Technology Plan**

*adopted by the NITC on 11/30/09*

**Action: Nebraska Geospatial Data Sharing and Web Services Network.** Develop a Nebraska enterprise-level geospatial web portal, with Internet mapping and data services, to serve the users of Nebraska related GIS/geospatial data and enable those users to efficiently and reliably find, access, display, and build public information applications utilizing the geospatial data maintained by a wide variety of state, local and federal agencies and where appropriate, provide for a coordinated security system, including the possibility for limited data access and password protection..

**Lead:** Larry Zink, Coordinator, Nebraska GIS Council

**Participating Entities:** State Government Council; GIS Council

**Timeframe:** December 31, 2010

**Funding:** A total of \$215,000 in grant funding has been secured from the NITC Collaborative Fund, the State Record Board, and the US Geological Survey to underwrite a two-year start up period for this project. An additional \$25,000 will be sought from the State Records Board and \$60,000 from contributing state agency partners for a total of \$300,000. This funding to be supplemented by in-kind technical services provided from state and local agencies.

**Status:** Continuation. Twelve state and local government agencies have endorsed a Project Charter to indicate their support for, and partnership in, developing this online, enterprise-level GIS/geospatial data mapping and services portal. A Project Manager/Technical Lead was hired for this project through a contractual arrangement between the OCIO and UNL CALMIT and has been working since late December 2008. The project involves significant technical implementation challenges; including establishing the network, data sharing protocols, and web mapping and data services applications. The technology and system will allow for the live, interactive access and sharing of data from multiple Internet map servers operated by different agencies. The technology will allow agencies to leverage existing state and local investments in data and Internet map services, by other agencies, to build new applications incorporating these Internet map services into their application design. The project has the potential to interface with and support other efforts which seek to pull together existing geospatial data from multiple sources, such as the State Patrol's Fusion Center project or the Douglas and Sarpy Counties effort to develop a common operating platform for emergency response. The project has been branded as the NebraskaMAP and an initial working prototype of the portal has been developed at UNL CALMIT and is available at "<http://www.nebraskamap.gov>". Current efforts are focused on refining this initial working prototype, developing architectural specifications for developing a production model at the OCIO and developing some initial applications to demonstrate the merits of this collaborative data sharing project. Two initial applications - services have been identified and are under development: serving statewide street centerline-address data (with a geocoding service) and serving statewide aerial imagery.

**Action: Street Centerline-Address Database.** Develop a plan (including responsibilities and resource requirements) for the coordinated development, data integration, on-going maintenance and online distribution/Internet mapping service of a composite, “best available”, statewide street centerline/address database.

**Lead:** Larry Zink, Coordinator, Nebraska GIS Council

**Participating Entities:** State Government Council; GIS Council

**Timeframe:** December 31, 2010

**Funding:** Limited initial development funding is available at this time through a commitment from the State Patrol and NEMA. Data development funding is on-going through Public Service Commission, Dept. of Roads, and local governments.

**Status:** Continuation. The decision by the NebraskaMAP Committee to identify the provision of statewide street centerline/address data, and related geocoding services, as one of its initial enterprise services for this project has significantly enhanced this development of street centerline/address action item. Some of the resources of the NebraskaMAP project have been diverted to developing an initial statewide centerline-address database by integrating the “best available” data from multiple state and local agencies. This initial statewide integration of available data should be completed by the end of 2009.

The Public Service Commission, through the Wireless E911 fund, continues to work with counties to contract for the development and maintenance this data for 90 Nebraska counties. The initial data development is complete for least 80 of those 90 counties. For the other 10 counties, initial data development is in process. In addition, Douglas, Lancaster, and Sarpy counties have developed and maintain this data in-house. These datasets are maintained in separate county files. The Dept. of Roads maintains geospatial data for all state highways, however this data does not include street address information but it does include milepost addressing information. While there are significant public resources are being invested in the development of pieces this much needed data, outside of the NebraskaMAP effort, there still needs to be work done to develop a plan and agency responsibility for the on-going collection, integration and distribution of this data in an integrated statewide database format.

A GIS Council Advisory Committee on Street Centerline-Address Databases has developed recommendations for a data model and process for integrating multiple, and varied local government centerline-address data into a statewide dataset. This data model is being tested and will be revised as a part of the NebraskaMAP effort.

**Action: Metadata and State Geospatial Data Catalog.** Document existing state agency GIS/geospatial data with formal metadata and encourage the listing of available geospatial data in Nebraska Geospatial Data Center Clearinghouse Catalog.

**Lead:** Larry Zink, Coordinator, Nebraska GIS Council

**Participating Entities:** State Government Council; GIS Council

**Timeframe:** December 31, 2010

**Funding:** Primarily supported through in-kind support of state and local agency personnel

**Status:** Continuation. The NITC has adopted a Geospatial Metadata Standard ([http://www.nitc.state.ne.us/standards/data/metadata\\_standard\\_20050923.pdf](http://www.nitc.state.ne.us/standards/data/metadata_standard_20050923.pdf)), which calls for the progressive documentation of state agency geospatial data, within a one-year timeframe (originally by Sept. 2006). The Department of Natural Resources, in partnership with the Nebraska GIS Council, developed a Nebraska Geospatial Data Center, which included metadata development tools. Metadata training sessions have been held in Lincoln and Omaha. Despite the existence of the NITC standard requiring metadata, the availability of metadata development tools and training, there remains a large body of state agency GIS/geospatial data that has not been documented with metadata and has not been listed on the Data Center Clearinghouse Catalog. It has been proposed that the Nebraska Geospatial Data Center, operated by the Department of Natural Resources, be transferred to the NebraskaMAP geospatial data portal. It is hoped that that development of the NebraskaMAP - Geospatial Data Sharing and Web Services Network will help to further the development of metadata documentation, as metadata is a requirement for the functioning of the NebraskaMAP online data sharing tools.

**Action: Statewide Geospatial Infrastructure Strategic Planning.** Develop an enterprise-level, statewide, GIS/geospatial infrastructure strategic plan for the geographic area of Nebraska. The planning process should involve the broader GIS user community (state, local, and federal agencies, tribes and the private sector) and seek to identify parallel needs and plans for geospatial data, standards, online distribution networks and services, coordination, funding, and policies.

**Lead:** Larry Zink, Coordinator, Nebraska GIS Council

**Participating Entities:** State Government Council; GIS Council

**Timeframe:** December 2010

**Funding:** A \$50,000 strategic planning grant proposal has been awarded by the Federal Geographic Data Committee (FGDC) to the Office of the CIO on behalf of the Nebraska GIS Council. The majority of these grant funds are to be used to hire a planning consultant.

**Status:** Continuation. Over the last 6-7 years, the activities of the Nebraska GIS Council have been guided by an existing Strategic Plan, the goals of which were originally developed in 2001. The Council has endorsed a major outreach and planning effort to develop a new GIS/Geospatial Strategic Plan with the goal of facilitating the coordination and collaboration of the broader GIS user community in Nebraska. Due to a prioritization of other efforts, this strategic planning process has been delayed but will proceed in 2010. A Strategic Planning Advisory Committee will be established to oversee the process. The GIS Council, through its Planning Advisory Committee, will lead this process but the active support of the NITC, the State Government Council and its member agencies will be very helpful.

**Action: Planning for Periodic, Collaborative Orthoimagery Acquisition.** Research and develop recommendations for standards, policies, infrastructure, and funding to support collaborative efforts by state, local and federal agencies to periodically acquire updated orthoimagery. Most GIS applications require or benefit from the availability of current aerial imagery. The acquisition of updated, orthorectified (corrected for camera tilt and the slope of the earth's surface) imagery requires a significant public investment, but if done collaboratively, on a regular periodic basis, these costs can be minimized and shared across a broad user community.

**Lead:** Larry Zink, Coordinator, Nebraska GIS Council

**Participating Entities:** GIS Council, state, local and federal government agencies

**Timeframe:** December 2010

**Funding:** It is believed that existing staff and resources will be sufficient to complete this planning process.

**Status:** This effort will seek to learn from, and build on, existing collaborative imagery acquisition efforts such as the Nebraska-Iowa Regional Orthoimagery Consortium (NIROC) and the USDA Farm Services Agency – National Aerial Imagery Program (NAIP).

**Action: Planning for Statewide LiDAR Acquisition.** Research and develop a plan outlining the needs for; benefits of; recommended standards; and funding proposals for developing an updated and enhanced digital model of the earth's surface for the geographic area of Nebraska. A wide range of applications benefit from having available current, accurate information on the relative height and slope of the earth's surface. In the past the collection of this type of information on a large geographic area was cost prohibitive. Relatively new LiDAR (**L**ight **D**etection and **R**anging) technology uses airborne remote sensing, radar-like technology and has sufficiently lowered the costs/benefit ratio to make it feasible to acquire updated, accurate digital surface modeling data for large geographic areas.

**Lead:** Doug Hallum, Nebraska Department of Natural Resources and Larry Zink, Coordinator, Nebraska GIS Council

**Participating Entities:** GIS Council; Nebraska Department of Natural Resources; and state, local and federal agencies

**Timeframe:** December 2010

**Funding:** It is believed that existing staff and resources will be sufficient to complete this planning process

**Status:** An interagency working group has been established under the auspices of the GIS Council, and supported by staff from the Department of Natural Resources, to explore this area and develop recommendations. A collaborative intergovernmental effort was undertaken in the summer of 2009 to contract for the collection of LiDAR data in south central Nebraska for area approximately one-fifth of the total geographic area of Nebraska. That data is expected to be available early in 2010. Current discussions are underway to collect LiDAR for the urban areas around Douglas, Sarpy and Lancaster Counties. This action item will build upon these existing efforts.